

ABSTRACT OF THE DISCLOSURE

A bone fixation assembly for securing a fixation device such as a bone plate, to bone includes a fixation device, including at least a through
5 hole with isolated protrusions (such as pegs or spikes); and locking bone engaging members such as screws.

The screw has a shank with a thread for engaging bone and a partial sphere head with a thread configured and dimensioned to match with the
10 isolated protrusions of the hourglass shaped through holes of the bone plate.

The bone plate has a through hole shaped like an hourglass which diameter matches that of the screw spherical head and is provided with
15 multiple isolated protrusions.

In use, the screw is threaded into the bone, through the hole of the bone plate at a selected angle. The partial sphere head of the screw engages in the protrusions of the plate hole resulting in the strong locking
20 of the screw at the selected orientation within the through hole in just one single surgical action.